

Appl. No.: 10/505,303
Reply to Office Action of: 08/14/2006

RECEIVED
CENTRAL FAX CENTER

NOV 09 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An optical assembly comprising:

a multimode optical fiber; and

an optical connector coupled to the multimode optical fiber, wherein the connector comprises ~~Connector comprising~~ ports to receive optical ferrules and to correspond to single-mode to multi-mode conversions, comprising wherein the optical connector comprises an input optical port and an output optical port, wherein the multimode optical fiber is coupled to the output optical port, characterized in that ~~it the~~ optical connector comprises a set of two lenses each with a flat face, interposed between the two optical ports and placed against a plate made of transparent material to enable an adaptation of transmission of the light rays in space and in energy density, the two lenses having respective diameters and radii of curvature that are different to form a fanning out of the beam of light rays, from narrow to wide from one the input optical port to the other output optical port.

2. (Currently amended) ~~A connector~~ An optical assembly according to claim 1, characterized in that a focal point of each of the lenses is located in the space constituted by ~~the~~ a plate made of transparent material.

Appl. No.: 10/505,303
Reply to Office Action of: 08/14/2006

3. (Currently amended) ~~A connector~~ An optical assembly according to claim 1, wherein the set of two lenses are placed against a plate made of transparent material, characterized in that the transparent plate forms a divergent-convergent optical device.

4. (Cancelled)

5. (Currently amended) ~~A connector~~ An optical assembly according to claim 1, further comprising a transparent plate between the set of two lenses, characterized in that the transparent plate has a length of about one millimeter.

6. (Currently amended) ~~A connector~~ An optical assembly according to claim 1, characterized in that it is provided with two detachable sets of lenses, ~~especially in order to correspond to two modes of conversion from a single mode propagation to a multimode propagation or vice versa, this multimode propagation being capable of taking two types of propagation.~~

7. (Currently amended) ~~A connector~~ An optical assembly according to claim 1, further comprising a transparent plate between the set of two lenses, characterized in that the plate, ~~made of a transparent material that is preferably glass,~~ is overmolded by the lenses.

8. (Currently amended) ~~A connector~~ An optical assembly according to claim 1, further comprising a transparent plate between the set of two lenses, characterized in that the plate is made of a transparent material that is preferably glass is overmolded by an array of lenses.

Appl. No.: 10/505,303

Reply to Office Action of: 08/14/2006

9. (Currently amended) ~~A connector~~ An optical assembly according to claim 8, characterized in that lenses overmolded on a face of the plate are lenses different from each other.

10. (Currently amended) ~~A connector~~ An optical assembly according to claim 7, characterized in that the lenses are made of resin overmolded on the plate.

11. (Currently amended) An optical assembly comprising:

a multimode optical fiber; and

An an optical connector coupled to the multimode optical fiber, wherein the optical connector comprises comprising:

an input optical port adapted to receive at least one first optical ferrule;

an output optical port adapted to receive at least one second optical ferrule, wherein the multimode optical fiber is coupled to the output optical port;

a combined transparent member and lens device interposed between the input and output optical ports, wherein the combined transparent member and lens device comprises:

a transparent member,

a first lens having a first flat face located against the transparent member and a first curved face with a first radii of curvature, and

Appl. No.: 10/505,303

Reply to Office Action of: 08/14/2006

a second lens having a second flat face located against the transparent member and a second curved face with a second different radii of curvature,

wherein the first and second lens are aligned along a light path through the combined transparent member and lens device between the optical ports, and wherein the combined transparent member and lens device is adapted to change the size of the light in the light path between the optical ports.

12. (New) A connector according to claim 1, wherein the set of two lenses each have a flat face, interposed between the two optical ports and placed against a plate made of transparent material.